

The Role of EPA in Columbia River Restoration

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Background

Physical Setting - The Columbia River Basin collects water from hundreds of mountain streams from four major tributaries, - the Snake, the Kootenai, the Clark Fork-Pend Oreille, and the Willamette Rivers. These feed into the 1,214 miles long mainstem of the Columbia River, which eventually empties into the Pacific Ocean near Astoria, Oregon. Covering 219,000 square miles in seven western states - Washington, Oregon, Idaho, Montana, Wyoming, Nevada and Utah - the basin also takes in 39,500 square miles in British Columbia.

Environmental Degradation in the Columbia River Basin - The decline of fish runs in the Columbia River Basin have resulted from a number of factors including habitat loss across the basin, hydropower development, hatchery production, and fish harvest. As a result, twelve stocks of fish in the Columbia River basin that are directly and/or indirectly impacted by the Federal Columbia River Power System (FCRPS) are now listed as threatened or endangered under the Endangered Species Act (ESA). There are also current exceedances of Clean Water Act (CWA) water quality standards, including Total Dissolved Gas [TDG] and temperature) that impact fish health and overall beneficial uses in the Columbia and Snake River mainstem.

The Columbia River as a Power Source - The hydroelectric dams on the Columbia and Snake Rivers produce an average of 18,500 megawatts of electricity annually and are the foundation of the Northwest's power supply. There are 14 major federal multi-use projects¹ on the Columbia and Snake River mainstem which serve as the Federal Columbia River Power System (FCRPS). These projects also provide navigation, irrigation, flood control and recreation. The Bonneville Power Administration markets and distributes power to public and private utilities generated at the federal dams on the Columbia River and its tributaries. The U.S. entered into the Columbia River Treaty with Canada in 1964 to provide for the building of four storage reservoirs (three in Canada, and one in the U.S.). These reservoirs represent almost half of the water storage on the Columbia River system used for flood control and power generation.

2000 Biological Opinion - In 2000, the National Marine Fisheries Service (NMFS) issued a Biological Opinion on the Endangered Species Act listings of Columbia and Snake River salmon. The Biological Opinion identifies reasonable and prudent measures to avoid jeopardy from the FCRPS on endangered or threatened species and identified an aggressive restoration strategy which did not recommend near-term dam breaching. The background for the restoration actions is complex and contentious involving four states, thirteen tribes, Alaska fishing controversies, and Canada, on issues such as governance, energy deregulation, tribal harvest, hatcheries, habitat, and hydropower.

¹ The U.S. Army Corps of Engineers operates 12 of the 14 major FCRPS projects. The Bureau of Reclamation operates 2 (Grand Coulee and Hungry Horse) of the 14 projects.

EPA's Role - The U.S. Environmental Protection Agency (EPA) has been participating in Columbia River forums to promote the inclusion of Clean Water Act (CWA) in the ESA decisions on the Columbia River mainstem for both federal and non-federal dams. EPA recognizes that restoration of the Columbia River requires an ecosystem approach and there are critical water quality improvement efforts that must be done in both the tributaries and the mainstem to achieve species recovery. In addition, EPA, states and tribes are engaged in major efforts in the tributaries through Total Maximum Daily Loads (TMDLs) and other stream restoration efforts.

- **Columbia/Snake Mainstem TMDL** - EPA, and the states of Oregon, Washington, and Idaho in coordination with the Columbia River Tribes have initiated dissolved gas and temperature TMDLs for the Columbia/Snake Mainstem. The environmental purpose of the Columbia/Snake River Mainstem TMDLs is to understand the sources of total dissolved gas and temperature loadings and to allocate those loadings to meet state and tribal water quality standards. This is a task that will require careful coordination, cooperation, and management by all parties involved in this effort due to the complexity of the governance system involving Federal agencies, state agencies, Tribes, private entities, and Public Utility Districts. EPA is taking the lead on the technical development of the Temperature TMDL and the states are taking the lead on the development of the dissolved gas TMDL. EPA is the lead for tribal lands and also public outreach for both TMDLs. EPA and the states have developed a Memorandum of Agreement to define roles and responsibilities in the development of the TMDLs.
- **2000 Biological Opinion** - In December 2000, NMFS released the Biological Opinion on the Federal Columbia River Power System, which includes long term water quality goals to attain state and tribal water quality standards for temperature and total dissolved gas. The Biological Opinion call for a water quality plan that the federal agencies are developing that is intended to chart the course toward attainment of water quality standards in the Columbia/Snake River Mainstem.
- **Conservation of Columbia Basin Fish Salmon Recovery Strategy** - EPA participated in the development of the Conservation of Columbia Basin Fish Salmon Recovery Strategy with eight other federal agencies, a conceptual document that explores alternative actions needed to recover ESA-listed species in the basin, organized around the factors that affect the life-cycle of salmon. Clean Water Act attainment is a key item in both the hydro and habitat discussions. The habitat portion of the paper encourages increased coordination between tributary TMDL efforts and ESA actions.
- **Lower Snake Draft Environmental Impact Statement** - EPA Region 10 gave an EU-3 (inadequate) rating to the Army Corps of Engineers' Lower Snake River Juvenile Salmon Migration Draft Feasibility Report and EIS on the four Lower Snake River Dams. In general, EPA criticized the DEIS for failing to acknowledge the impacts that the dams have on water quality and the economic impact of water quality improvements. EPA is working with the Corps to address these concerns in the Final EIS.

- **Snake River Lawsuit** - In the Spring of 1999, environmental groups (National Wildlife Federation and others) sued U.S. Army Corps of Engineers (Corps) in Federal District Court in Oregon over operation of four Lower Snake River federal dams, asserting that they cause exceedances of WQS. Specific challenge was to COE decisions regarding dam operations. Plaintiffs won on summary judgement. On 2/16/01 court ruled:
 - Record established that dam operations would cause WQS exceedances
 - COE decision did not include measures to avoid or minimize the WQS exceedances
 - COE must submit new ROD by 4/17 (extended to 5/17) to address WQ impacts. EPA expects ROD to tie into TMDL process as part of COE's WQ efforts. COE seeking EPA agreement on terms of ROD. EPA expects to work with COE on ROD development.
- **Transboundary Gas Group** - EPA is working with a bi-national group called the Transboundary Gas Group (TGG) whose purpose is to reduce system wide total dissolved gas (TDG) to levels safe for aquatic life in the most cost effective manner possible. The TGG released its "Framework Plan for Coordinating Activities of the Columbia River Transboundary Gas Group" on August 17, 2000.

Key Issues for EPA

- **Columbia/Snake River Mainstem TMDLs** - EPA's participation in the Columbia/Snake River Mainstem TMDL is critical given the Federal Columbia River Power System.
- **Record of Decision/Water Quality Plan** - EPA's concurrence of the strategy developed by the Corps is critical. This will require coordination with the Corps and DOJ.
- **Coordination with Tribal Governments** - The Columbia River Tribes approached EPA and asked for our participation to uphold our tribal trust responsibility. Appropriate coordination and consultation with tribal governments will be necessary.
- **Implementation of the NMFS Biological Opinion** - EPA will need to work with NMFS and the other federal agencies to ensure effective implementation of the Reasonable and Prudent Alternatives and Conservation Measures identified in the Biological Opinion.

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